



## DRAWING SET

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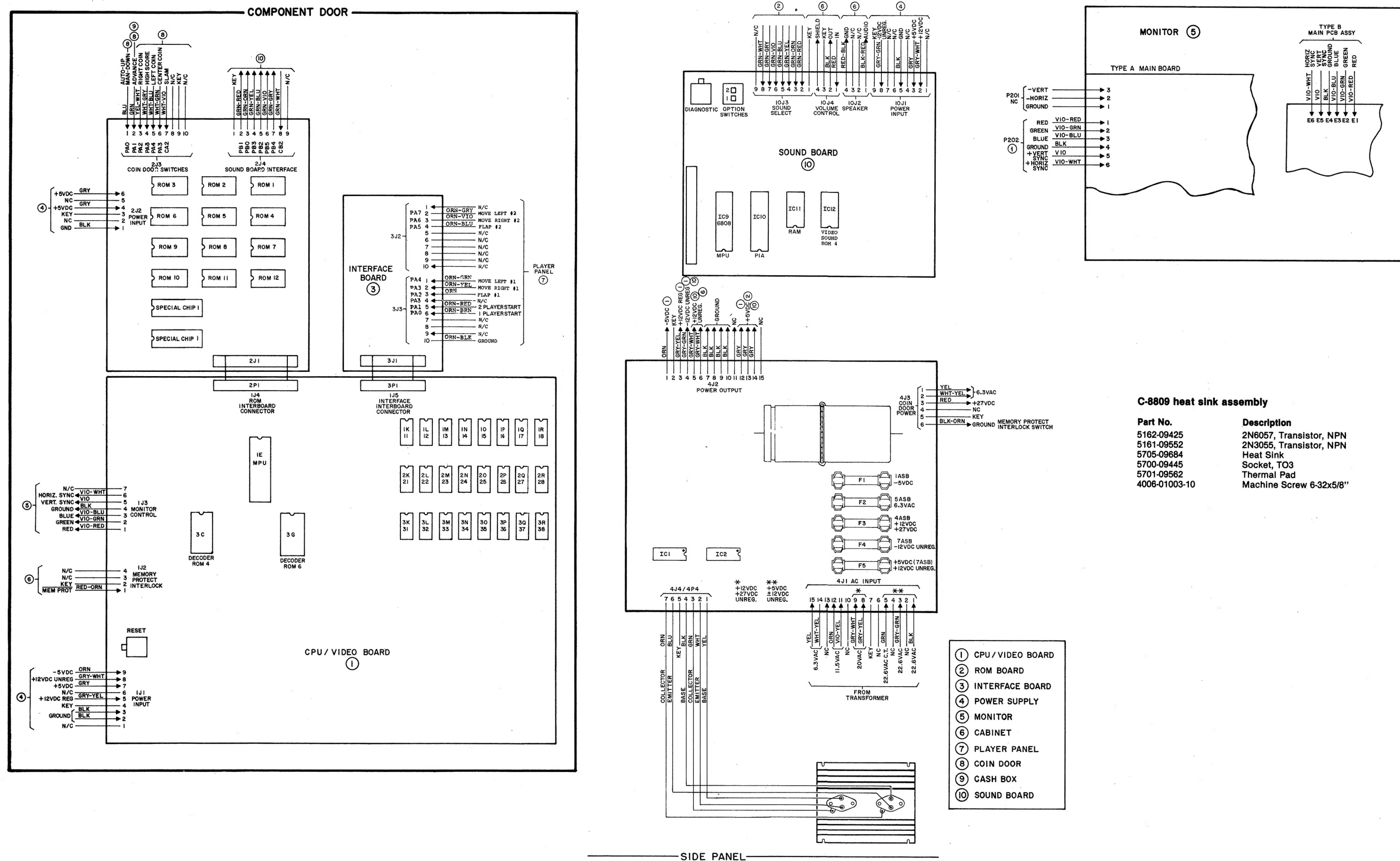
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# INTERBOARD WIRING



## C-8809 heat sink assembly

| Part No.      | Description             |
|---------------|-------------------------|
| 5162-09425    | 2N6057, Transistor, NPN |
| 5161-09552    | 2N3055, Transistor, NPN |
| 5705-09684    | Heat Sink               |
| 5700-09445    | Socket, TO3             |
| 5701-09562    | Thermal Pad             |
| 4006-01003-10 | Machine Screw 6-32x5/8" |



| ITEM NO. | PART NO.      | PART DESIGNATION                  | DESCRIPTION                              | REQ'D. NO. |
|----------|---------------|-----------------------------------|--|------------|
| 74       | 5791-09497-00 | IJ3                               | 7 PIN HEADER 09-65-1071                  | 1          |
| 75       | 5791-09021-00 | IJ1                               | 9 PIN HEADER 09-65-1091                  | 1          |
| 76       | 5019-09669-00 | SR1                               | RESISTOR, 1K OHM 10 PIN SIP              | 1          |
| 77       | 5010-09534-00 | W1, W2, W3                        | RESISTOR, C.F. 0 OHM 1/4 WATT            | 3          |
| 78       | 5340-09689-00 | IC                                | 5114 1K X 4 CMOS STATIC RAM              | 1          |
| 79       | 5340-09689-00 | 1B, 2B                            | 6514 1K X 4 CMOS STATIC RAM              | 0          |
| 80       | 5641-09371-00 | SW1                               | PUSH BUTTON SW. SPST                     | 0          |
| 81       | 16-8850-26    |                                   | LABEL PCB ASSY I.D.                      | 1          |
| 82       |               |                                   |  |            |
| 83       | 5019-09786-00 | SR2                               | SIP 4.7KΩ 5R 6 PIN 5%125 W/R@70°C        | 1          |
| 84       | 5281-09856-00 | 1H, 3H, 4H                        | OCTAL LATCH 74LS373                      | 3          |
| 85       |               |                                   |  |            |
| 47       | 5010-09035-00 | R64                               | RESISTOR, C.F. 47K OHM 5% 1/4 W.         | 1          |
| 48       | 5551-09882-00 | L3                                | COIL, 4.7μH, 3A                          | 1          |
| 49       | 5010-09001-00 | R2, R21, R24                      | RESISTOR, C.F. 330 OHM 5% 1/4 W.         | 3          |
| 50       | 5010-09039-00 | R56                               | RESISTOR, C.F. 10 OHM 5% 1/4 W.          | 1          |
| 51       | 5043-09491-00 | C89, C93                          | CAPACITOR, AXIAL 22 PFD. 1K V. ±10%      | 2          |
| 52       | 5043-09492-00 | C88                               | CAPACITOR, AXIAL 100 PFD. 50 V. ±10%     | 1          |
| 53       | 5040-09545-00 | C84                               | CAPACITOR, AXIAL 22 MFD. 10 V. ±20%      | 1          |
| 54       | 5043-09065-00 | C94 THRU C97                      | CAPACITOR, AXIAL 470 PFD. 50 V. XTR ±20% | 4          |
| 55       | 5043-09996-00 | SEE NOTE #3                       | CAPACITOR, AXIAL .1 MFD. 50 V. ±20%      | 85         |
| 56       | 5040-09421-00 | C81, C82, C83                     | CAPACITOR, RADIAL 100 MFD. 25 V. ±50-10% | 3          |
| 57       | 5075-09059-00 | ZR2                               | IN5990A 3.9 V. ZENER DIODE               | 1          |
| 58       | 5075-09018-00 | ZR1                               | IN5996A 6.8 V. ZENER DIODE               | 1          |
| 59       | 5070-09219-00 | D1, D2, D3, D4, D5, D6, D7, D8    | IN4148 DIODE, SILICON                    | 8          |
| 60       | 5070-09266-00 | D9                                | IN5817 DIODE, SILICON                    | 1          |
| 61       | 5160-09338-00 | Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q13 | 2N4401, TO-92 TRANSISTOR, NPN            | 8          |
| 62       | 5190-09016-00 | Q1, Q2, Q3, Q4, Q12               | 2N4403, TO-92 TRANSISTOR, PNP            | 5          |
| 63       | 5520-09495-00 | CR1                               | 12 MHZ CRYSTAL                           | 1          |
| 64       | 5093-09845-00 | C98-C105                          | CAPACITOR, AXIAL 1000 PFD. 50V ±20%      | 8          |
| 65       | 5880-09022-00 | B1, B2, B3                        | BATTERY ALKALINE 1.5V. (AA)              | 3          |
| 66       | 5881-09021-00 |                                   | BATTERY HOLDER #171                      | 1          |
| 67       | 5700-09628-00 |                                   | 14-PIN IC SOCKET                         | 0          |
| 68       | 5700-09006-00 |                                   | 16-PIN IC SOCKET                         | 24         |
| 69       | 5700-09004-00 |                                   | 24-PIN IC SOCKET                         | 2          |
| 70       | 5700-09085-00 |                                   | 40-PIN IC SOCKET                         | 1          |
| 71       | 5791-09437-00 | IJ5                               | 20 PIN RIBBON CABLE HEADER               | 1          |
| 72       | 5791-09349-00 | IJ4                               | 40 PIN RIBBON CABLE HEADER               | 1          |
| 73       | 5791-09028-00 | IJ2                               | 4 PIN HEADER 09-65-1041                  | 1          |

#### NOTES:

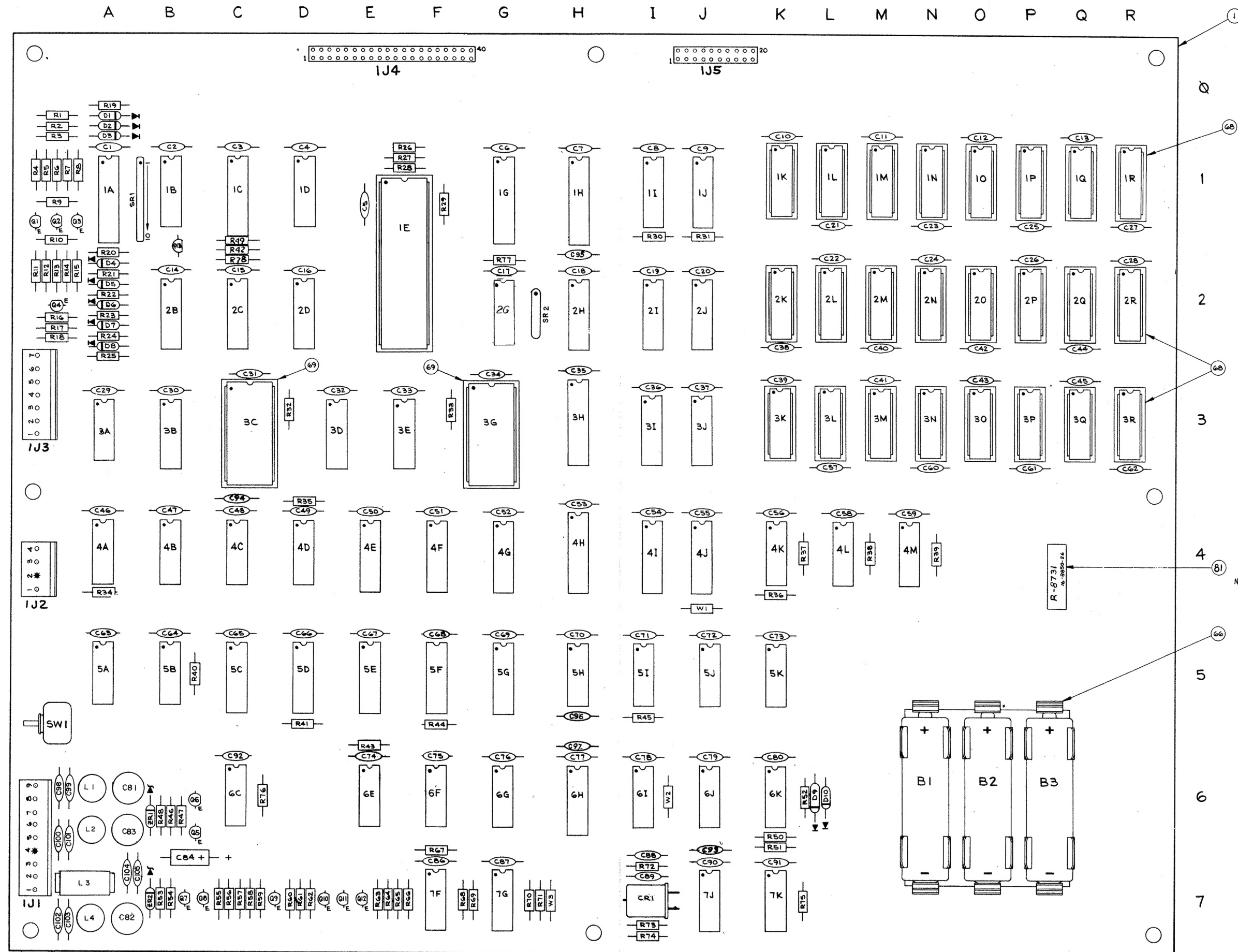
1. 4116: 1K, 1L, 1M, 1N, 1O, 1P, 1Q, 1R, 2K, 2L, 2M, 2N, 2O, 2P, 2Q, 2R, 3K, 3L, 3M, 3N, 3O, 3P, 3Q, 3R

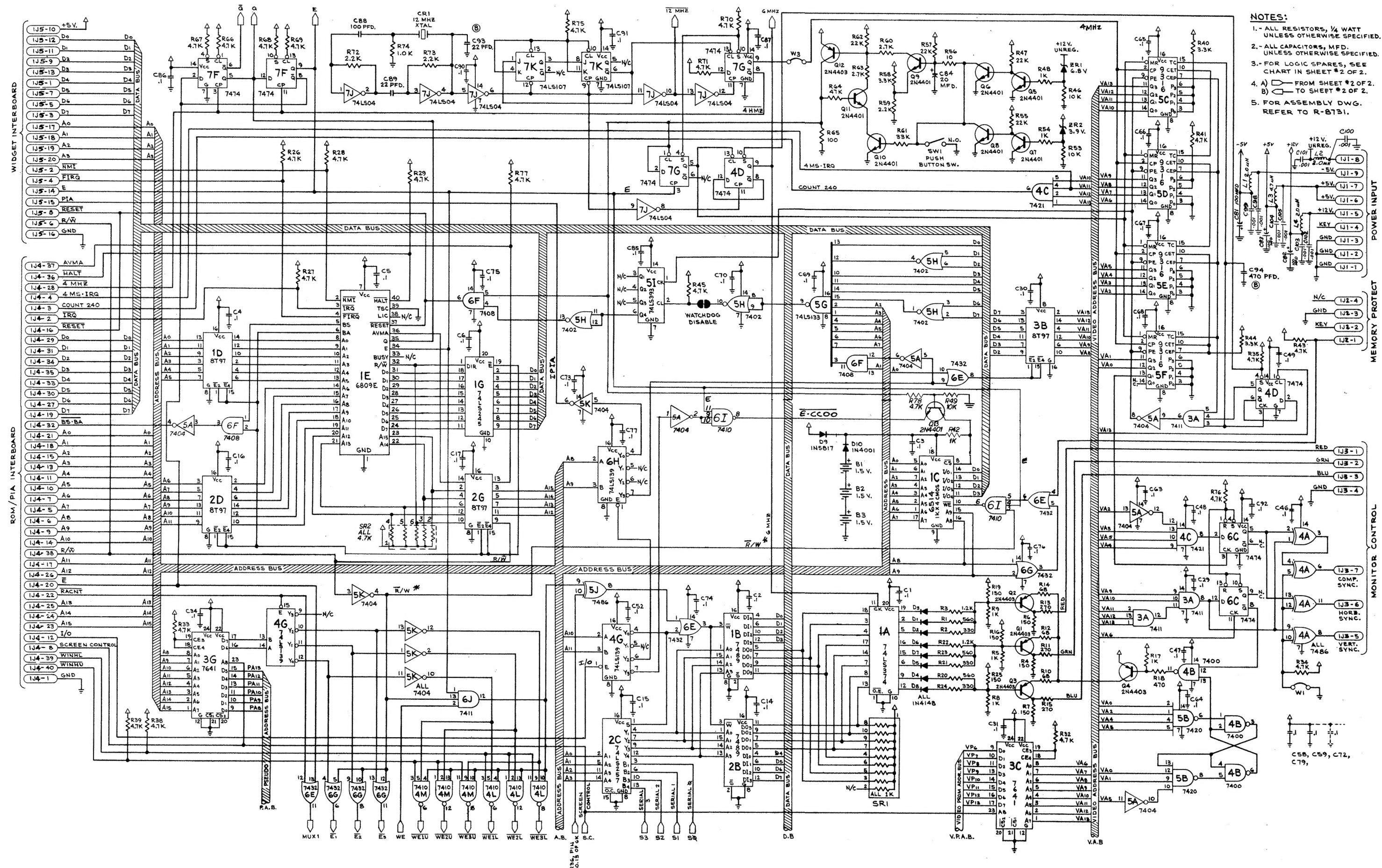
2. 4.7K 4 RESISTOR: R26, R27, R28, R29, R32, R33, R35, R36, R37, R38, R39, R41, R43, R45, R50, R51, R52, R66, R67, R68, R69, R70, R71, R75, R84, R76, R77, R78

3. 1 MFD. CAPACITORS: C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C86, C87, C90, C91, C92

4. FOR SCHEMATIC REFER TO 16-8809

| ITEM NO. | PART NO.      | PART DESIGNATION                | DESCRIPTION                              | REQ'D. NO. |
|----------|---------------|---------------------------------|--|------------|
| 1        | 5770-09656-00 |                                 | BARE P.C. BOARD REV. D                   | 1          |
| 2        | 5280-09073-00 | 4B                              | 7400 QUAD 2-INPUT NAND                   | 1          |
| 3        | 5280-08948-00 | 5H                              | 7402 QUAD 2-INPUT NOR                    | 1          |
| 4        | 5281-09215-00 | TJ                              | 74LS04 HEX. INVERTER                     | 1          |
| 5        | 5280-09013-00 | 5A, 5K                          | 7404 HEX. INVERTER                       | 2          |
| 6        | 5280-08973-00 | 6F                              | 7408 QUAD AND                            | 1          |
| 7        | 5280-09011-00 | 4L, 4M, 6I                      | 7410 TRIPLE 3-INPUT NAND                 | 3          |
| 8        | 5280-09475-00 | 3A, 6J                          | 7411 TRIPLE 3-INPUT AND                  | 2          |
| 9        | 5280-09530-00 | 5B                              | 7420 DUAL 4-INPUT NAND                   | 1          |
| 10       | 5280-09476-00 | 4C                              | 7421 DUAL 4-INPUT AND                    | 1          |
| 11       | 5280-09477-00 | 6E, 6G                          | 7432 QUAD 2-INPUT OR                     | 2          |
| 12       | 5280-09478-00 | 4D, 4K, 6K, 6C, 7F, 7G          | 7474 DUAL D-TYPE FLIP-FLOP               | 6          |
| 13       | 5280-09479-00 | 4A, 5J                          | 7485 QUAD 2-INPUT EX-OR                  | 2          |
| 14       | 5281-09480-00 | 7K                              | 74LS107 DUAL J-K FLIP-FLOP               | 1          |
| 15       | 5281-09532-00 | 5G                              | 74LS133 13-INPUT NAND                    | 1          |
| 16       | 5281-09246-00 | 4G, 6H                          | 74LS139 DUAL 2 to 4 LINE DECODER         | 2          |
| 17       | 5280-09481-00 | 3D, 3E, 4E, 4F                  | 74153 DUAL 4 to 1 DATA INVERT            | 4          |
| 18       | 5280-09468-00 | 1I, 1J, 2I, 2J, 3I, 3J, 4I, 4J  | 74166 8-BIT SHIFT REGISTER               | 8          |
| 19       |               |                                 |  |            |
| 20       | 5281-09308-00 | 1G                              | 74LS245 OCTAL BUS TRANSCEIVER            | 1          |
| 21       | 5281-09485-00 | 2C, 2H                          | 74LS257 QUAD DATA MUX.                   | 2          |
| 22       | 5370-08989-00 | 1D, 2D, 2G, 3B                  | 8T97 HEX. TS BUFFER                      | 0          |
| 23       | 5281-09466-00 | 1A                              | 74LS367 HEX. BUS DRIVER                  | 4          |
| 24       | A-5342-09821  | 3C                              | 74LS374 OCTAL D-TYPE FLIP-FLOP           | 1          |
| 25       | A-5342-09694  | 3G                              | UNIVERSAL VERT. DECODER ROM 6            | 1          |
| 26       | 5551-09848-00 | L1, L2, L4                      | COIL, 2.0μH, .5A                         | 3          |
| 27       | 5281-09533-00 | 5I                              | 74LS393 DUAL 4-BIT BIN. COUNTER          | 1          |
| 28       | 5340-09488-00 | SEE NOTE #1                     | 4116 (450 ns ACCESS) 16K X 1 DYNAMIC RAM | 24         |
| 29       | 5070-06258-00 | D10                             | IN4001 DIODE                             | 1          |
| 30       | 5280-09489-00 | 5C, 5D, 5E, 5F                  | 9316 4-BIT BIN. COUNTER                  | 4          |
| 31       | 5400-09490-00 | 1E                              | 6809E MICROPROCESSOR                     | 1          |
| 32       | 5010-09548-00 | R10, R12, R14                   | RESISTOR, C.F. 68 OHM 2% 1/4 W.          | 3          |
| 33       | 5010-09036-00 | R65                             | RESISTOR, C.F. 100 OHM 5% 1/4 W.         | 1          |
| 34       | 5010-09187-00 | R4, R6, R7, R16, R19, R25       | RESISTOR, C.F. 150 OHM 5% 1/4 W.         | 6          |
| 35       | 5010-09508-00 | R11, R13, R15                   | RESISTOR, C.F. 270 OHM 2% 1/4 W.         | 3          |
| 36       | 5010-09416-00 | R18                             | RESISTOR, C.F. 470 OHM 5% 1/4 W.         | 1          |
| 37       | 5010-08992-00 | R1, R20, R23                    | RESISTOR, C.F. 560 OHM 5% 1/4 W.         | 3          |
| 38       | 5010-09358-00 | R42, R5, R9, R17, R48, R54, R74 | RESISTOR, C.F. 1K OHM 5% 1/4 W.          | 8          |
| 39       | 5010-09314-00 | R3, R22                         | RESISTOR, C.F. 1.2K OHM 5% 1/4 W.        | 2          |
| 40       | 5010-08998-00 | R59, R72, R73                   | RESISTOR, C.F. 2.2K OHM 5% 1/4 W.        | 3          |
| 41       | 5010-08997-00 | R60, R63                        | RESISTOR, C.F. 2.7K OHM 5% 1/4 W.        | 2          |
| 42       | 5010-08983-00 | R30, R31, R40, R44, R58         | RESISTOR, C.F. 3.3K OHM 5% 1/4 W.        | 5          |
| 43       | 5010-08991-00 | SEE NOTE #2                     | RESISTOR, C.F. 4.7K OHM 5% 1/4 W.        | 1          |
| 44       | 5010-09034-00 | R49, R46, R53                   | RESISTOR, C.F. 10K OHM 5% 1/4 W.         | 3          |
| 45       | 5010-08774-00 | R47, R55, R57, R62              | RESISTOR, C.F. 50K OHM 5% 1/4 W.         | 4          |
| 46       | 5010-09113-00 | R61                             | RESISTOR, C.F. 33K OHM 5% 1/4 W.         | 1          |





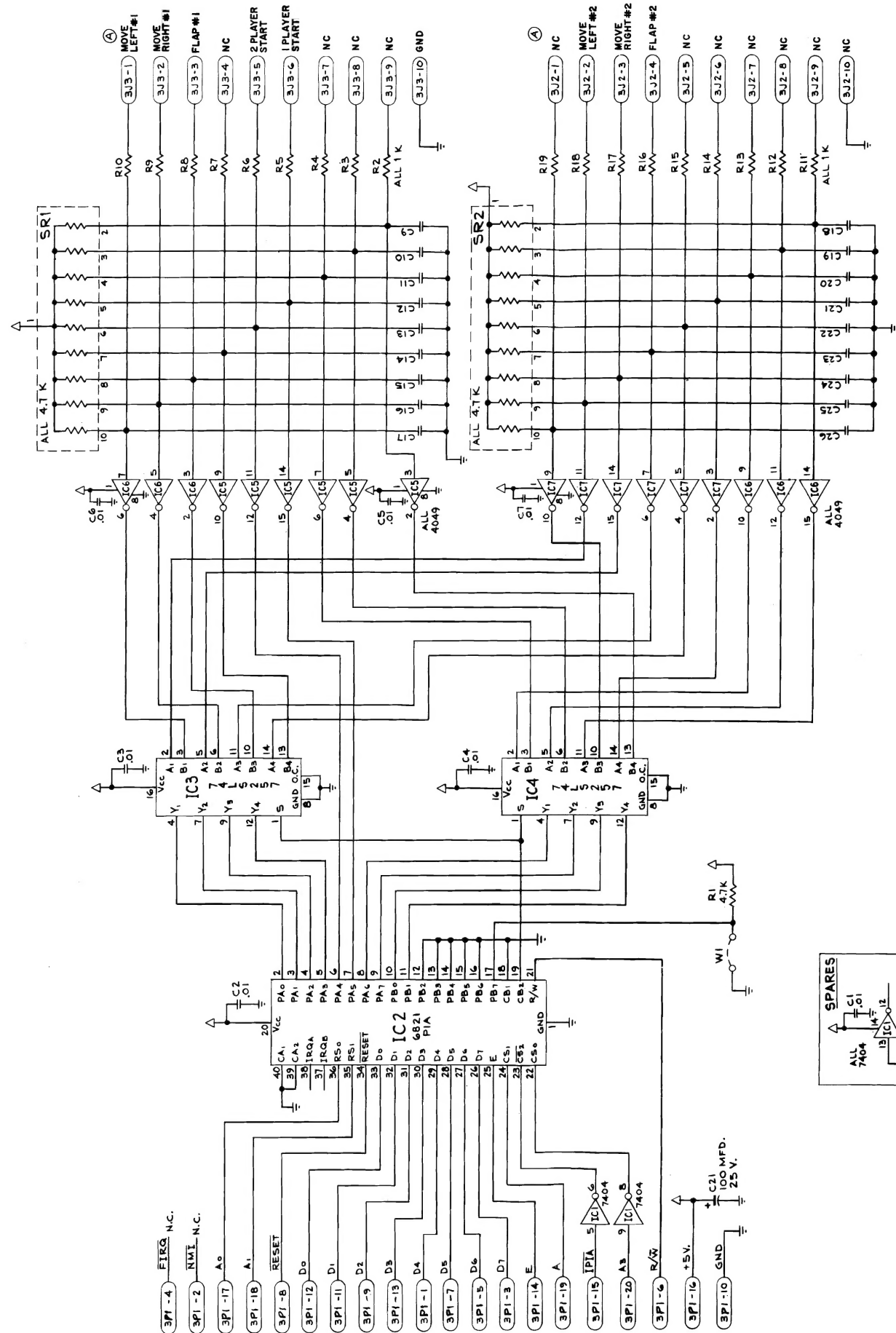
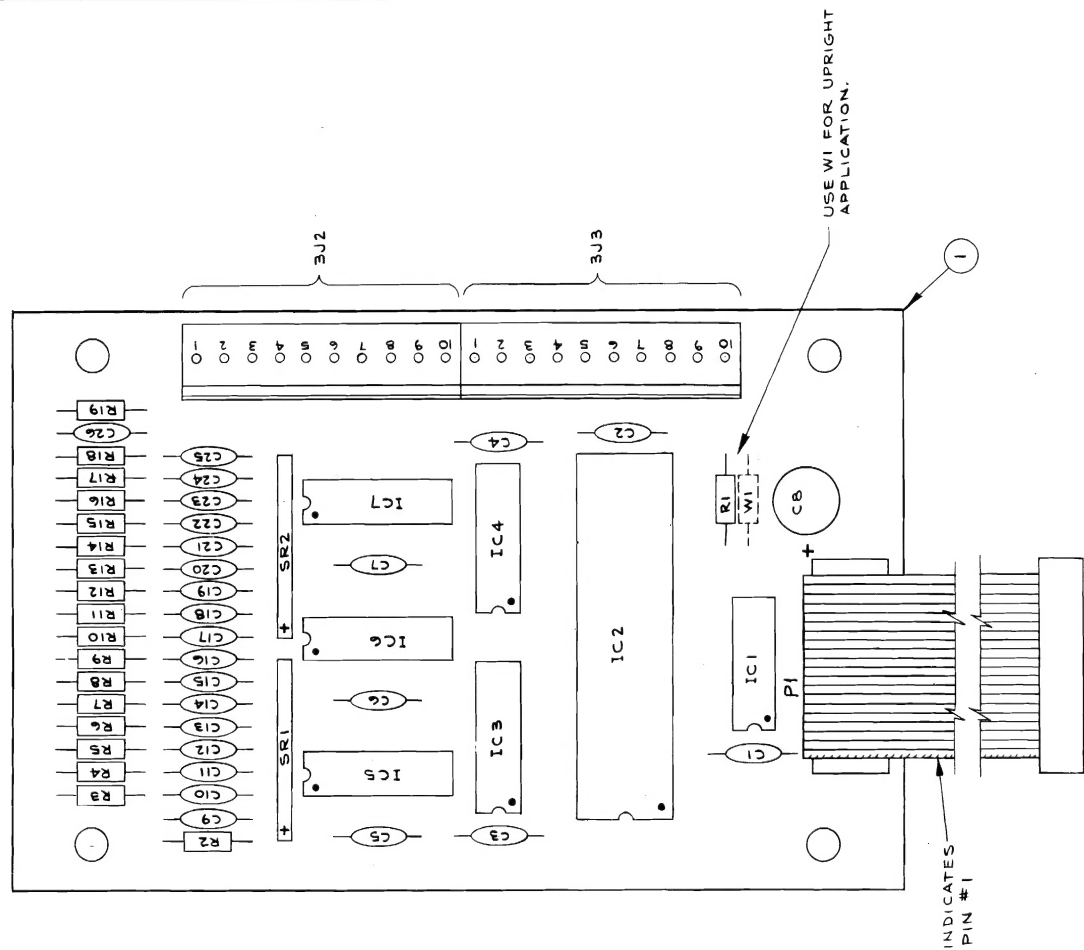
- NOTES:
1. ALL RESISTORS, 1/4 WATT UNLESS OTHERWISE SPECIFIED.
  2. ALL CAPACITORS, MFD. UNLESS OTHERWISE SPECIFIED.
  3. FOR LOGIC SPARES, SEE CHART IN SHEET #2 OF 2.
  4. A) FROM SHEET #2 OF 2. B) TO SHEET #2 OF 2.
  5. FOR ASSEMBLY DWG. REFER TO R-8731.

R-8731 CPU Board Logic Diagram  
(Sheet 1 of 2)

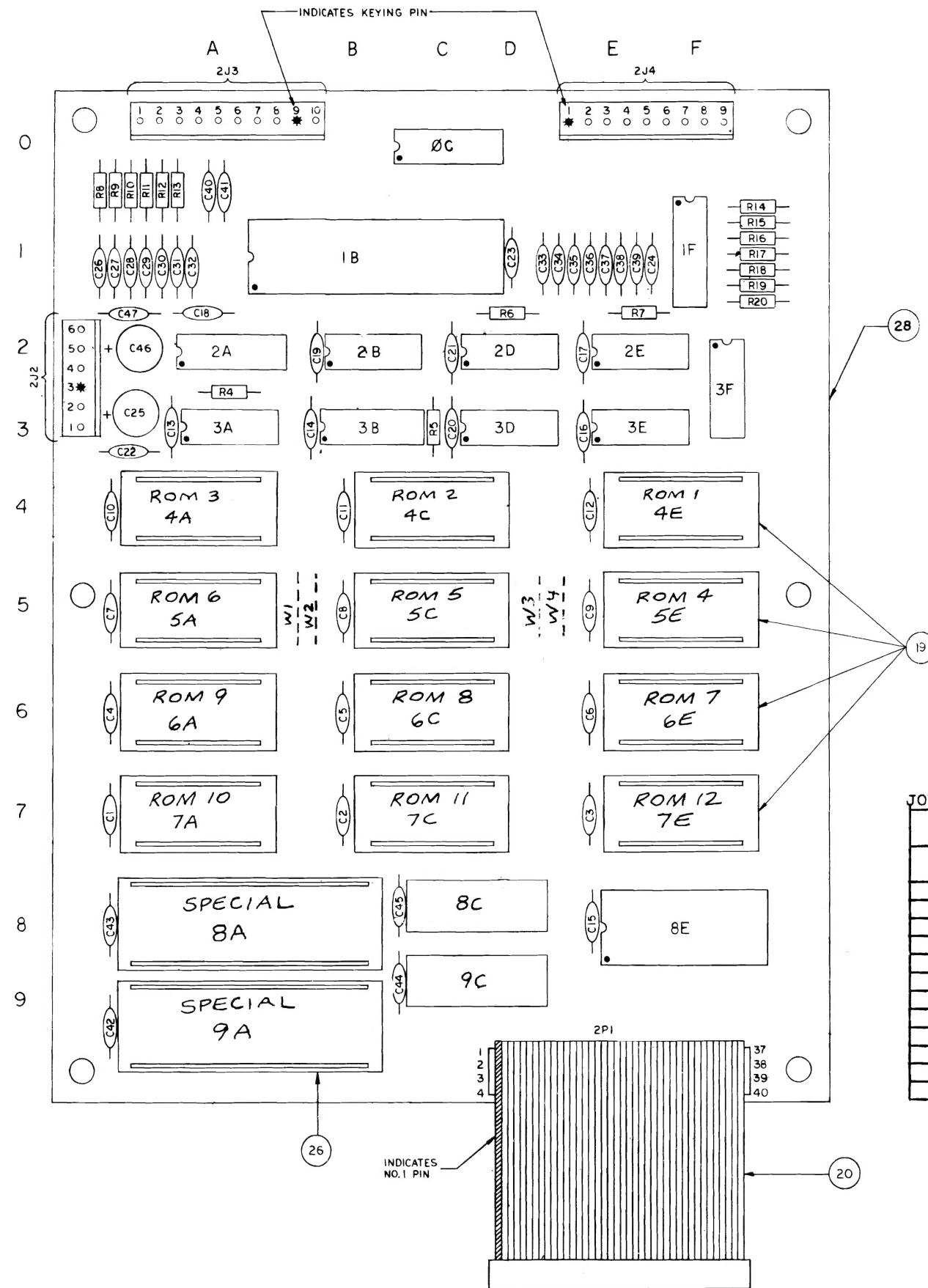




| ITEM NO. | PART NO.      | PART DESIGNATION | DESCRIPTION  | NO. REQD. |
|----------|---------------|------------------|--|-----------|
| 1        | 5772-09680-00 |                  | BARE P.C. BOARD                                    | 1         |
| 2        | 5430-08772-00 | IC2              | 6821 PIA   | 1         |
| 3        | 5310-08975-00 | IC5, IC6, IC7    | 4049 CMOS HEX INVERTOR                             | 3         |
| 4        | 5280-09013-00 | IC1              | 7404 HEX INVERTER                                  | 1         |
| 5        | 5281-09485-00 | IC3, IC4         | 74LS257 QUAD DATA MULTIPLEXER                      | 2         |
| 6        | 5019-09362-00 | SR1, SR2         | 4.7K OHM 9 RES. 10 PIN SIP                         | 2         |
| 7        | 5010-09358-00 | R2 THRU R19      | RESISTOR, C.F. 1K OHM 5% 1/4 WATT                  | 18        |
| 8        | 5010-08991-00 | R1               | RESISTOR, C.F. 4.7K OHM 5% 1/4 WATT                | 1         |
| 9        | 5010-09534-00 | W1               | RESISTOR, C.F. 0 OHM 1/4 WATT                      | 1         |
| 10       | 5043-09065-00 | C9 THRU C26      | CAPACITOR, CERAMIC DISC 470 PFD. 50V. X7R ±20%     | 18        |
| 11       | 5040-09421-00 | C8               | CAPACITOR, ELECT. RADIAL 100 MFD. 25 VOLT, +50-10% | 1         |
| 12       | 5043-08980-00 | C1 THRU C7       | CAPACITOR, CERAMIC DISC, .01 MFD. 50V. +50-20%     | 7         |
| 13       | 5195-09540-00 | P1               | 20 PIN RIBBON CABLE ASSY.                          | 1         |
| 14       | 5791-09444-00 | 3J2, 3J3         | 10 PIN HEADER 09-65-1101                           | 2         |



C-8783 Interface Board Assembly and Logic Diagram

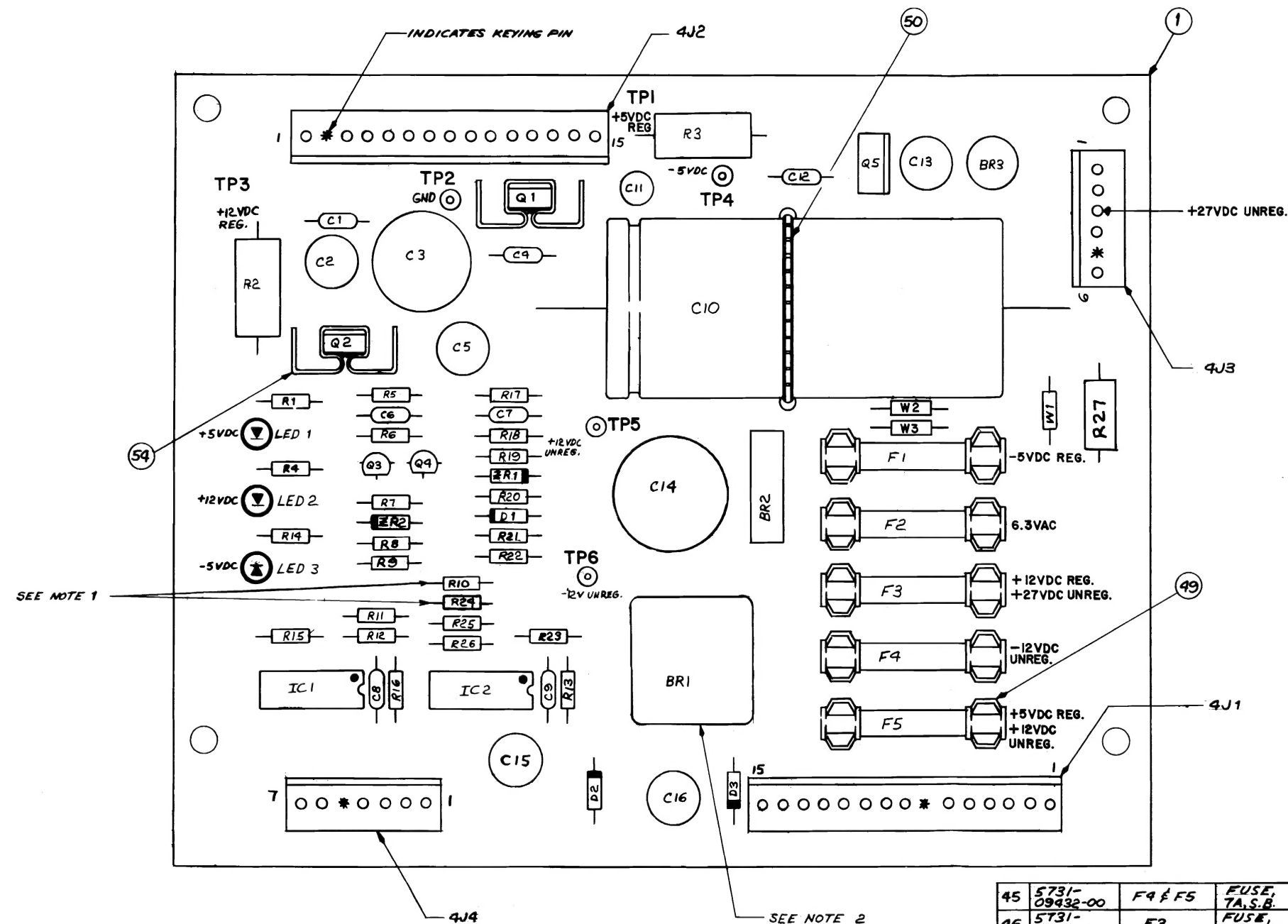


| CHIP CODE | ROM #  | PART #        |
|-----------|--------|---------------|
| 4E        | ROM 1  | A-5343-09961A |
| 4C        | ROM 2  | A-5343-09962A |
| 4A        | ROM 3  | A-5343-09963A |
| 5E        | ROM 4  | A-5343-09964A |
| 5C        | ROM 5  | A-5343-09965A |
| 5A        | ROM 6  | A-5343-09966A |
| 6E        | ROM 7  | A-5343-09967A |
| 6C        | ROM 8  | A-5343-09968A |
| 6A        | ROM 9  | A-5343-09969A |
| 7A        | ROM 10 | A-5343-09970A |
| 7C        | ROM 11 | A-5343-09971A |
| 7E        | ROM 12 | A-5343-09972A |
| JUMPER    |        | W2, W4        |

| BILL OF MATERIALS |               |                          |   |           |
|-------------------|---------------|--------------------------|---|-----------|
| ITEM NO.          | PART NO.      | PART DESIGNATION         | DESCRIPTION                               | REQ'D NO. |
| 1                 | 5771-09840-00 |                          | BARE P.C. BOARD                           | 1         |
| 2                 | 5280-09407-00 | 1F                       | 7447BCD TO 7SEG LED DISPLAY               | 1         |
| 3                 | 5280-09478-00 | 2D, 3A                   | 7474 DUAL-D TYPE FLIP-FLOP                | 2         |
| 4                 | 5281-09246-00 | 3B                       | 74LS139 DUAL 2 TO 4 LINE DECODER          | 1         |
| 5                 | 5280-09530-00 | 2B                       | 7420 DUAL 4-INPUT NAND                    | 1         |
| 6                 | 5280-09475-00 | 3D                       | 7411 TRIPLE 3 INPUT AND                   | 1         |
| 7                 | 5280-09013-00 | 3E                       | 7404 HEX INVERTERS                        | 1         |
| 8                 | 5280-09551-00 | 2E                       | DUAL 4 INPUT 7425 NOR GATE WITH STROBE    | 1         |
| 9                 | 5280-09010-00 | 8E                       | 74154 4 TO 16 LINE DEC./DEMULT.           | 1         |
| 10                | 5430-08972-00 | 1B                       | MC 6821 PIA                               | 1         |
| 11                | 5019-09239-00 | QC                       | 4.7K 15 RES 16 PIN DIP PACK               | 1         |
| 12                | 5010-09187-00 | R14 THRU R20             | RESISTOR C.F. 150 OHM 5% 1/4 W            | 7         |
| 13                | 5010-08991-00 | R4 THRU R7               | RESISTOR C.F. 4.7K OHM 5% 1/4 W           | 4         |
| 14                | 5671-09411-00 | 3F                       | MAN 72A 7SEG LED DISPLAY                  | 1         |
| 15                | 5043-08980-00 | C1-C21, C23, C24, C42-45 | CAP. CERAMIC .01 MFD 50V +80-20%          | 27        |
| 16                | 5040-09421-00 | C25, C46                 | CAP ELEC 100 MFD. 25V RAD +50%-10%        | 2         |
| 17                | 5043-08996-00 | C22, C47                 | CAP CERAMIC .1 MFD. 50V ±20%              | 2         |
| 18                | 5043-09065-00 | C26 THRU C41             | CAP CERAMIC 470 PFD. 50V AXIAL +/-20%     | 16        |
| 19                | 5700-09004-00 |                          | 24-PIN I.C. SOCKET                        | 12        |
| 20                | 5795-09611-00 | 2P1                      | 40 PIN RIBBON CABLE ASS'Y 5'              | 1         |
| 21                | 5791-09038-00 | 2J2                      | HEADER, 6 PIN, 09-65-1061                 | 1         |
| 22                | 5791-09444-00 | 2J3                      | 10 PIN MALE CONN 09-65-1101               | 1         |
| 23                | 5791-09027-00 | 2J4                      | 9 PIN CONN 09-65-1091                     | 1         |
| 24                | 5310-08975    | 2A                       | 4049 INVERTING HEX BUF.                   | 1         |
| 25                | 5010-09358-00 | R8 THRU R13              | RESISTOR C.F. 1K OHM 5% 1/4 W             | 6         |
| 26                | 5700-08985-00 |                          | 40-PIN I.C. SOCKET                        | 2         |
| 28                | D-9192        |                          | ROM/PIA BD. SUB-ASSEMBLY                  | 1         |
| 29                | SEE CHART     | 4A THRU 7E<br>SEE CHART  | GAME ROM ASSEMBLY                         | AS REQ'D  |
| 30                | 5010-09534-00 | W1 THRU W4<br>SEE CHART  | RESISTOR C.F. 0 OHM 1/4 WATT              | AS REQ'D  |
| 31                | 5410-09866-00 | 8A, 9A                   | FULL CUSTOM I.C.                          | 2         |
| 32                | 5281-09308-00 | 8C                       | I.C., 74LS245 OCTAL BUS/LINE DR/LINE RCVR | 1         |







- NOTES:
1. REMOVE R24 IF +5VDC IS GREATER THEN 5.25 VDC, REMOVE R10 IF +5VDC IS LESS THAN 4.75 VDC.
  2. BR1 MUST BE MOUNTED 1/8" ABOVE SURFACE OF BOARD.
  3. FOR SCHEMATIC REFER TO 16-8811.

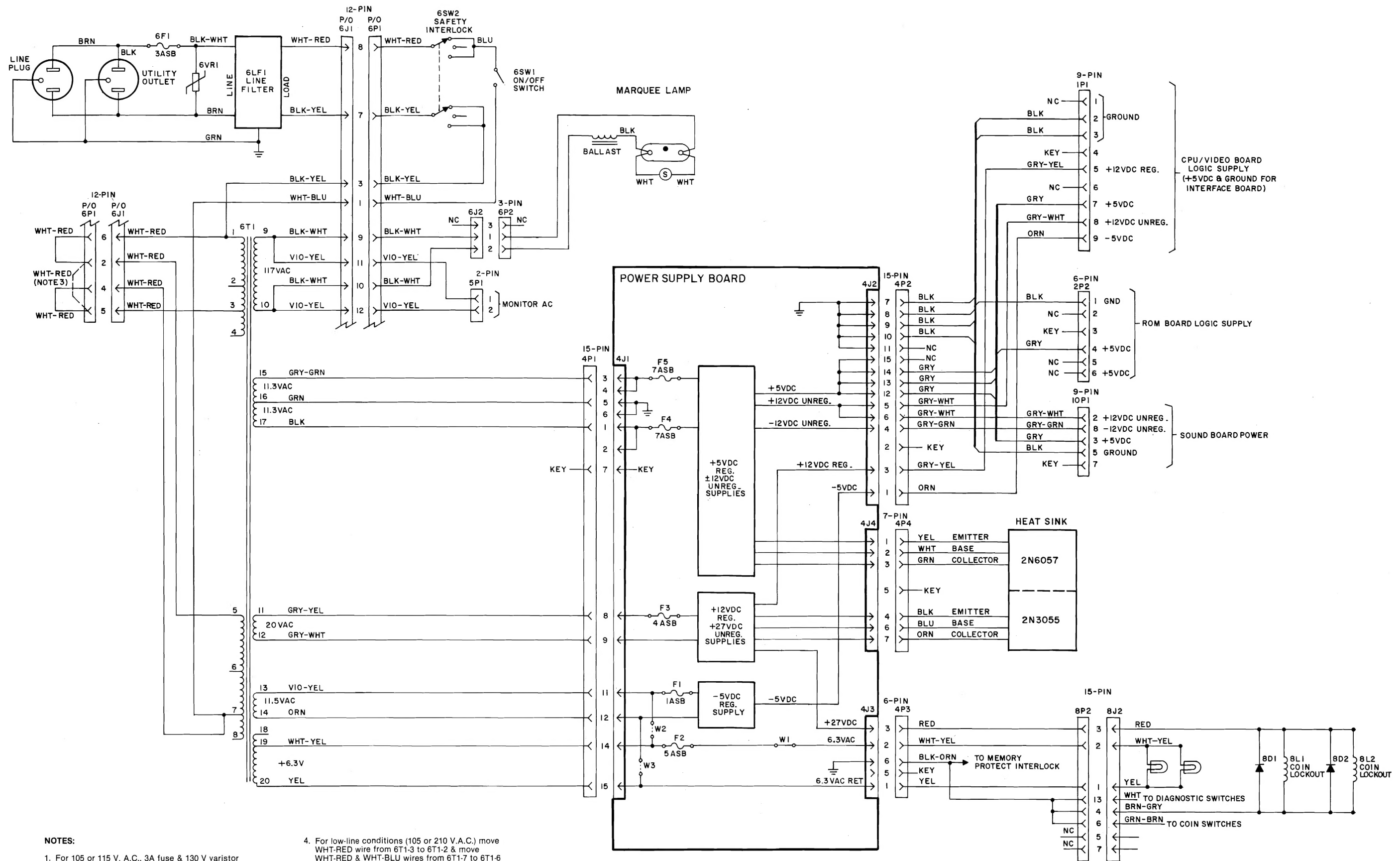
|          |               |                  |                             |           |
|----------|---------------|------------------|-----------------------------|-----------|
| 55       | 5010-09682-00 | R10              | RESISTOR C.F. 51K ± 5% 1/4W | 1         |
| 56       | 5010-09324-00 | R24              | RESISTOR C.F. 27K ± 5% 1/4W | 1         |
| ITEM NO. | PART NO.      | PART DESIGNATION | DESCRIPTION                 | REQ'D NO. |
| 57       | 5010-09682-00 | R10              | RESISTOR C.F. 51K ± 5% 1/4W | 1         |
| 58       | 5010-09324-00 | R24              | RESISTOR C.F. 27K ± 5% 1/4W | 1         |
| 59       | 5010-09682-00 | R10              | RESISTOR C.F. 51K ± 5% 1/4W | 1         |
| 60       | 5010-09324-00 | R24              | RESISTOR C.F. 27K ± 5% 1/4W | 1         |

## BILL OF MATERIAL

| ITEM NO. | PART NO.      | PART DESIGNATION | DESCRIPTION                               | REQ'D NO. |
|----------|---------------|------------------|---|-----------|
| 1        | 5773-09679-00 |                  | BARE P.C. BOARD                           | 1         |
| 2        | 5010-09085-00 | R23              | RESISTOR, 1.5K 5%, 1/4W                   | 1         |
| 3        | 5010-09541-00 | R13, R15         | RESISTOR, 2.7K 2%, 1/4W                   | 2         |
| 4        | 5010-09508-00 | R21              | RESISTOR, 370Ω 2%, 1/4W                   | 1         |
| 5        | 5010-09428-00 | R20              | RESISTOR, 1.5K 2%, 1/4W                   | 1         |
| 6        | 5010-09509-00 | R16              | RESISTOR, 1.1K 2%, 1/4W                   | 1         |
| 7        | 5010-09510-00 | R7               | RESISTOR, 12K 2%, 1/4W                    | 1         |
| 8        | 5010-09314-00 | R4               | RESISTOR, 1.2K 5%, 1/4W                   | 1         |
| 9        | 5010-09416-00 | R1, R14          | RESISTOR, 470Ω 5%, 1/4W                   | 2         |
| 10       | 5013-09542-00 | R11              | RESISTOR, 7.32K 1%, 1/4W                  | 1         |
| 11       | 5013-09427-00 | R12              | RESISTOR, 4.99K 1%, 1/4W                  | 1         |
| 12       | 5013-09426-00 | R25              | RESISTOR, 2.15K 1%, 1/4W                  | 1         |
| 13       | 5012-09429-00 | R3               | RESISTOR, .12Ω 5%, 5W                     | 1         |
| 14       | 5012-09512-00 | R2               | RESISTOR, .27Ω 5%, 5W                     | 1         |
| 15       | 5012-09037-00 | R27              | RESISTOR, 0.4Ω 5%, 3W                     | 1         |
| 16       | 5013-09665-00 | R26              | RESISTOR, 5.11K 1%, 1/4W                  | 1         |
| 17       | 5010-09434-00 | R6, R18          | RESISTOR, C.F. 22Ω ± 5% 1/4W              | 2         |
| 18       | 5010-09036-00 | R5, R9, R17, R22 | RESISTOR, C.F. 100Ω ± 5% 1/4W             | 4         |
| 19       | 5010-09039-00 | R8, R19          | RESISTOR, C.F. 10Ω ± 5% 1/4W              | 2         |
| 20       | 5010-09534-00 | W1               | RESISTOR, 0Ω                              | 1         |
| 21       | 5043-08996-00 | C6, C7           | CAPACITOR, 0.1μF CERAMIC +80% -20% 50V    | 2         |
| 22       | 5040-09421-00 | C2, C16          | CAPACITOR, 100MFD, 25V RADIAL +50% -10%   | 2         |
| 23       | 5040-09422-00 | C15              | CAPACITOR, 47MFD, 50V RADIAL +50% -10%    | 1         |
| 24       | 5040-09420-00 | C3               | CAPACITOR, 1000MFD, 25V RADIAL +75% -10%  | 1         |
| 25       | 5040-09419-00 | C10              | CAPACITOR, 18,000MFD 20V AXIAL +75% -10%  | 1         |
| 26       | 5040-09423-00 | C5               | CAPACITOR, 330MFD 10V RADIAL +50% -10%    | 1         |
| 27       | 5040-09504-00 | C14              | CAPACITOR, 4700MFD 35V RADIAL +50% -10%   | 1         |
| 28       | 5043-09446-00 | C1, C4 & C12     | CAPACITOR, .1MFD 50V AXIAL ±50% -20% +80% | 3         |
| 29       | 5043-08065-00 | C9               | CAPACITOR, 470PFD 50V AXIAL XTR ± 10%     | 1         |
| 30       | 5043-09492-00 | C8               | CAPACITOR, 100PFD 50V AXIAL S2L ± 5%      | 1         |
| 31       | 5040-09506-00 | C13              | CAPACITOR, 280MFD 16V RADIAL +50% -10%    | 1         |
| 32       | 5040-09493-00 | C11              | CAPACITOR, 22MFD 10V RADIAL +50% -10%     | 1         |
| 33       | 5070-06258-00 | D1, D2 & D3      | DIODE, 1N4001                             | 3         |
| 34       | 5075-09406-00 | ZR1              | ZENER, 1N5234 ± 5% (6.2V)                 | 1         |
| 35       | 5075-09662-00 | ZR2              | ZENER, 1N5244 ± 5% (14V)                  | 1         |
| 36       | 5190-09430-00 | Q3, Q4           | TRANSISTOR, MPS A55                       | 2         |
| 37       | 5130-09661-00 | Q1, Q2           | SCR, 8 AMP, 100V                          | 2         |
| 38       | 5250-09515-00 | Q5               | VOLTAGE REGULATOR, T905                   | 1         |
| 39       | 5460-09424-00 | IC1, IC2         | VOLTAGE REGULATOR, 723                    | 2         |
| 40       | 5100-09890-00 | BR1              | BRIDGE RECTIFIER, 35 AMP, 200V            | 1         |
| 41       | 5100-09513-00 | BR2              | BRIDGE RECTIFIER, 4.0A, 50V               | 1         |
| 42       | 5100-09514-00 | BR3              | BRIDGE RECTIFIER, 1.0A, 50V               | 1         |
| 43       | 5671-09018-00 | LED1, LED2, LED3 | LED, RED                                  | 3         |
| 44       | 5824-09248-00 | TP1-TP6          | TERMINAL #1502-1 (TEST POINT)             | 4         |







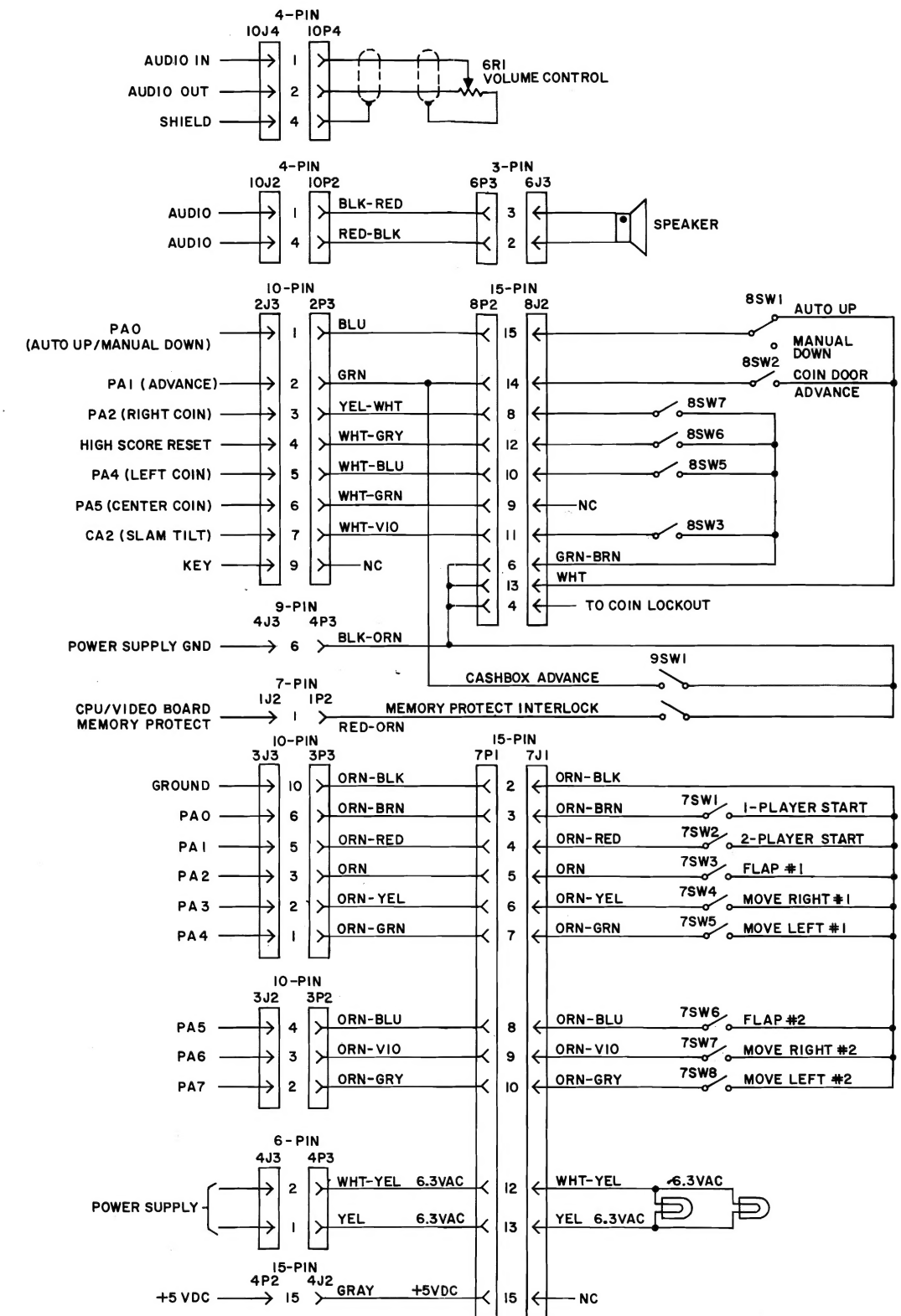
# NOTES:

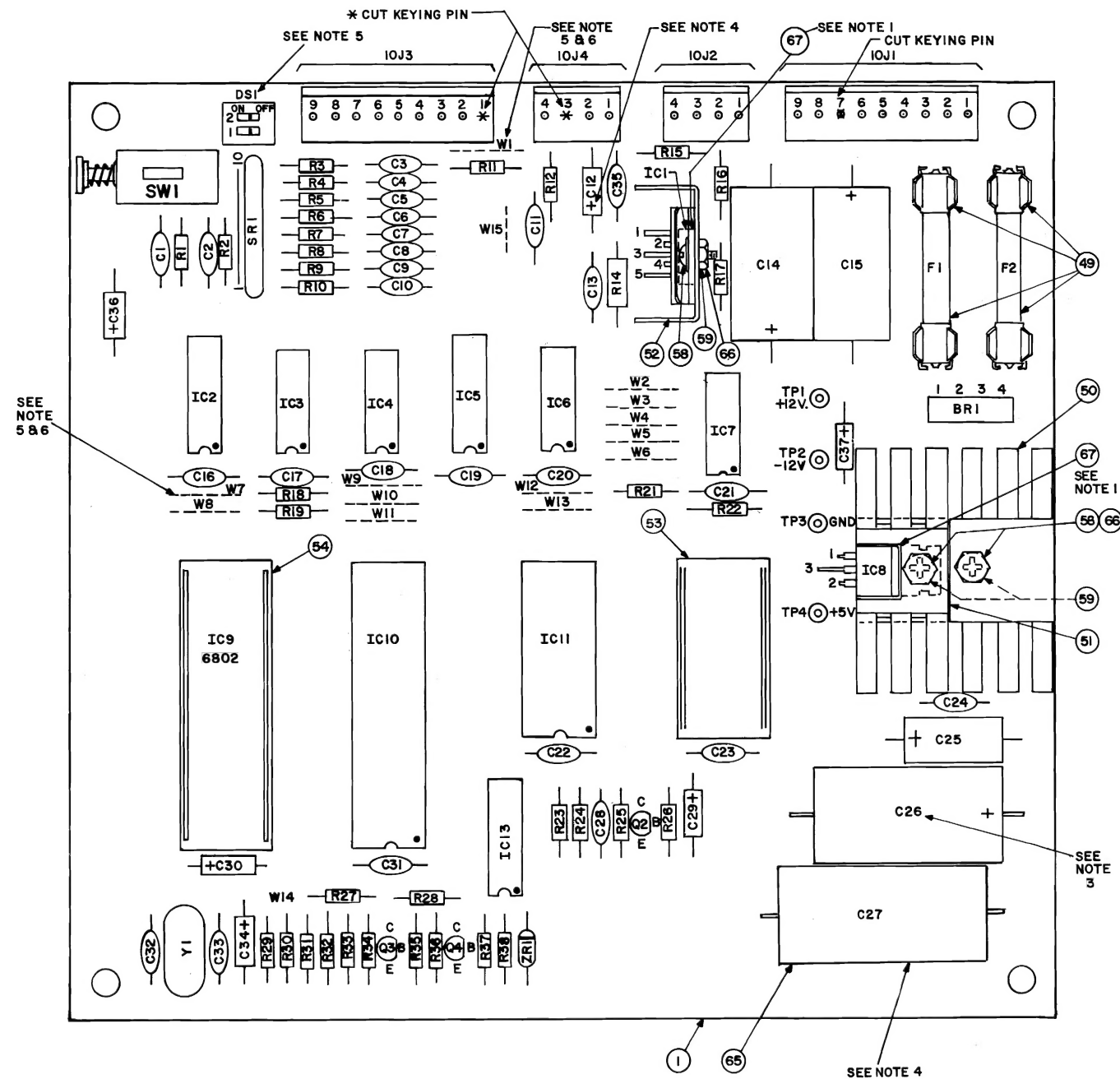
- For 105 or 115 V. A.C., 3A fuse & 130 V varistor 5017-09044 are used.
- For 210 or 235 V.A.C., 1A fuse & 275V varistor 5017-09063 are used.
- Jumper wires on 6PI shown with solid lines are connected for 117 V.A.C. operation. Only the one shown with a dashed line is connected for 220 V.A.C. operation.

- For low-line conditions (105 or 210 V.A.C.) move WHT-RED wire from 6T1-3 to 6T1-2 & move WHT-RED & WHT-BLU wires from 6T1-7 to 6T1-6
- For high line conditions (135 or 240 VAC) move WHT-RED wire from 6T1-3 to 6T1-4 and move WHT-RED & WHT-BLU wires from 6T1-7 to 6T1-8



# CABINET WIRING





| ITEM NO. | PART NO.      | PART DESIGNATION                   | DESCRIPTION                              | REQ'D. NO. |
|----------|---------------|------------------------------------|--|------------|
| 1        | 01-2 01-146-6 |                                    | BARE P.C. BOARD REV F                    | 1          |
| 2        | 5370-09156-00 | IC1                                | TDA 2002 V AUDIO AMPLIFIER               | 1          |
| 3        | 5280-09012-00 | IC2                                | 7442 BCD-DEC DECODER                     | 1          |
| 4        | 5280-09073-00 | IC3                                | 7400 QUAD 2 INPUT NAND                   | 1          |
| 5        | 5280-08973    | IC4                                | 7408 QUAD 2 INP. AND GATE                | 1          |
| 6        | 5310-09153-00 | IC5                                | 4050 BUFFER                              | 1          |
| 7        | 5310-09154-00 | IC6                                | 4068 8 INPUT NAND GATE                   | 1          |
| 8        | 5310-08971-00 | IC7                                | 4069 HEX INVERTER                        | 1          |
| 9        | 5250-09157-00 | IC8                                | 7805 5 VOLT REG. W/TO 220 CASE           | 1          |
| 10       | 5430-08972-00 | IC10                               | 6821 P.I.A.                              | 1          |
| 11       | 5340-09003-00 | IC11                               | 6810 RAM                                 | 1          |
| 12       | 5371-09152-00 | IC13                               | 1408 D/A CONVERTER                       | 1          |
| 13       | 5160-08938-00 | Q2, Q3, Q4                         | 2N4401 NPN TRANSISTOR                    | 3          |
| 14       |               |                                    |  |            |
| 15       | 5075-09018-00 | ZR1                                | 1N5996A 6.8V ZENER DIODE                 | 1          |
| 16       |               |                                    |  |            |
| 17       | 5100-09357-00 | BR1                                | MDA 200/3N253                            | 1          |
| 18       | 5100-09158-00 |                                    | BRIDGE RECTIFIER                         | 0          |
| 19       | 5520-09020-00 | Y1                                 | 3.58 MHZ CRYSTAL                         | 1          |
| 20       | 5010-08991-00 | R1,R18,R19,R21,R22,R27,R30,R31,R32 | RESISTOR, FC, 4.7K OHM, 5% 1/4 WATT      | 9          |
| 21       | 5010-09036-00 | R2 thru R10                        | RESISTOR, FC, 100 OHM, 5% 1/4W           | 9          |
| 22       | 5010-09358-00 | R12,R15,R28,R36,R38                | RESISTOR, FC, 1K OHM, 5% 1/4W            | 5          |
| 23       | 5010-09181-00 | R14                                | RESISTOR, FC, 1 OHM, 10% 1/2 WATT        | 1          |
| 24       | 5010-09161-00 | R16                                | RESISTOR, FC, 2.2 OHM, 5% 1/4 WATT       | 1          |
| 25       | 5010-09361-00 | R17                                | RESISTOR, FC, 220 OHM, 5% 1/2 WATT       | 1          |
| 26       | 5010-08983-00 | R23, R24, R26                      | RESISTOR, FC, 3.3K OHM, 5% 1/4 WATT      | 3          |
| 27       | 5010-09179-00 | R25                                | RESISTOR, FC, 3.3M OHM, 5% 1/4 WATT      | 1          |
| 28       | 5010-09035-00 | R29                                | RESISTOR, FC, 47K OHM, 5% 1/4 WATT       | 1          |
| 29       | 5010-09034-00 | R33, R35, R37                      | RESISTOR, FC, 10K OHM, 5% 1/4 WATT       | 3          |
| 30       | 5010-09039-00 | R34                                | RESISTOR, FC, 10 OHM, 5% 1/4 WATT        | 1          |
| 31       | 5043-08980-00 | C1, C16 thru C23, C31              | CAPACITOR, CER. .01 MFD. 50V. +80%, -20% | 10         |
| 32       | 5043-09065-00 | C2 thru C10                        | CAPACITOR, CER. 470 PFD. 50V. +20%       | 9          |
| 33       | 5043-09345-00 | C11                                | CAPACITOR, CER. .001 MFD. +20% 100V.     | 1          |
| 34       | 5040-09365-00 | C12, C30, C36                      | CAPACITOR, ELECT. 1 MFD. 63V. -10 +50%   | 3          |
| 35       | 5043-08996-00 | C13, C24, C35                      | CAPACITOR, CER. .1 MFD. 50V. +20%        | 3          |
| 36       | 5040-09165-00 | C14                                | CAPACITOR, ELECT. 1,000 MFD. 16V. +20%   | 1          |
| 37       | 5040-09164-00 | C15                                | CAPACITOR, ELECT. 470 MFD. 10V. +20%     | 1          |
| 38       | 5040-08986-00 | C25                                | CAPACITOR, ELECT. 100 MFD. 10V. +20%     | 1          |
| 39       | 5040-08893-00 | C26                                | CAPACITOR, ELECT. 1,000 MFD. 25V. +20%   | 1          |
| 40       | 5040-09376-00 | C27                                | CAPACITOR, ELECT. 4700 MFD. 16V. +20%    | 1          |
| 41       | 5043-09180-00 | C28                                | CAPACITOR, CER. 47 PFD. 1K V. +20%       | 1          |
| 42       | 5040-09343-00 | C29                                | CAPACITOR, ELECT. 10 MFD. 20V            | 1          |
| 43       | 5043-09169-00 | C32, C33                           | CAPACITOR, CER. DISC, 27 PFD. 1KV. +10%  | 2          |
| 44       | 5041-09163-00 | C34                                | CAPACITOR, TANTALUM 2.2 MFD. 15V. +20%   | 1          |
| 45       | 5041-09031-00 | C37                                | CAPACITOR, TANTALUM 1 MFD. 25V. +20%     | 1          |
| 46       | 5641-09658-00 | SW1                                | MOMENTARY SWITCH SPDT                    | 1          |
| 47       | 5645-09530-00 | DS1                                | 2 STD. DIP SWITCH                        | 1          |
| 48       | 5731-06314-00 | F1, F2                             | 4 AMP SLOW BLOW FUSE                     | 2          |
| 49       | 5732-09178-00 |                                    | FUSEHOLDER                               | 4          |
| 50       | 5705-09172-00 |                                    | HEAT SINK THERMALLOY #6072B              | 1          |
| 51       | 5705-09173-00 |                                    | HEAT SINK THERMALLOY #6071B              | 1          |
| 52       | 5705-09199-00 |                                    | HEAT SINK THERMALLOY #6030               | 1          |
| 53       | 5700-09004-00 |                                    | 24 PIN SOCKET                            | 1          |
| 54       | 5700-08985-00 |                                    | 40 PIN SOCKET                            | 1          |
| 55       | 5791-09027-00 | 10J1, 10J3                         | 9 PIN MALE CONNECTOR 09-65-1091          | 2          |
| 56       | 5791-09028-00 | 10J2, 10J4                         | 4 PIN MALE CONNECTOR 09-65-1041          | 2          |
| 57       |               |                                    |  |            |
| 58       | 4006-01003-06 |                                    | 6-32x3/8" P-PH-S                         | 3          |
| 59       | 4406-01117-00 |                                    | 6-32 HEX NUT                             | 3          |
| 60       | 5010-09534-00 |                                    | 0 OHM RESISTOR                           | A/R        |
| 61       | 5824-09248-00 | TP1 THR TP4                        | TERMINAL #1502-1                         | 4          |
| 62       | 5010-09363-00 | R11                                | RESISTOR, FC, 5.6K OHM 5% 1/4 WATT       | 1          |
| 63       |               |                                    |  |            |
| 64       | 5019-09362-00 | SR1                                | RESISTOR, 4.7K OHM 10 PIN SIP            | 1          |
| 65       | 03-7520-1     |                                    | TIE WRAP                                 | 1          |
| 66       | 4703-00007-00 |                                    | #6 EXT. LOCKWASHER                       | 3          |
| 67       | 20-9229       |                                    | THERMAL COMPOUND                         | .01        |

NOTES:

1. USE THERMAL COMPOUND BETWEEN IC1 AND IC8, AND HEAT SINKS.

2. CAUTION: AVOID STATIC DISCHARGE DAMAGE TO MOS LOGIC.

3. SYMBOLS SHOWN ON COMPONENTS ARE FOR REFERENCE ONLY.

DO NOT SCREEN OR STAMP.

4. OBSERVE INDEX MARK OF ALL INTEGRATED CIRCUITS;

DIODES D1, D2, AND ZR1;

CAPACITORS C12, C14, C15, C25, C26, C27;

CONNECTORS 10J1, 10J2, 10J4, 10J3, 10J5;

POSITION OF TRANSISTORS Q1, Q2, Q3, Q4.

5. JUMPERS

W3) W2)  
W4) W6)  
W5) IN W9) OUT  
W10) W11)  
W12)  
W13)



